

Ms. Katie Zakutansky is a Senior Consultant and biomechanical engineer at Engineering Systems Inc. (ESi), where she specializes in the application of biomechanics across a broad range of industries, including transportation, consumer products, marine, recreational, and medical devices.

Her expertise encompasses biomechanical analysis, injury mechanisms, accident investigation, risk assessment, and human performance evaluation. Ms. Zakutansky is actively involved in investigative and hands-on research to understand how individuals interact with various environments and systems. Her professional background also includes failure analysis, product research and development, and the analysis of human performance under a variety of conditions. Ms. Zakutansky brings a rigorous, interdisciplinary approach to each case and project, integrating engineering principles with human factors expertise.

Education

B.S., Biomedical Engineering - Biomechanics, Marquette University, 2016

Positions Held

Engineering Systems Inc., Fort Myers, Florida

- Senior Consultant, 2026 – Present
- Senior Staff Consultant, 2024 – 2025
- Staff Consultant, 2020 – 2023

Floyd Inc., Detroit, Michigan

- Product Design Engineer, 2019

Zimmer-Biomet, Warsaw, Indiana

- New Product Introduction Design Quality Engineer, 2017 – 2018
- Development Engineer, 2016 -- 2017

South Shore Marina, Portage, Indiana

- Staff Engineer, 2016

Contact Information

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ESi Fort Myers

12750 Commonwealth Drive
Fort Myers, FL 33919

Areas of Specialization

- Biomechanical Accident Reconstruction
- Human Factors and Ergonomics
- Injury Analysis
- Medical Devices
- Product Safety and Design
- Safety and Risk Assessment
- Sports and Fitness Equipment
- Experimental Testing

Trek Bicycle, Waterloo, Wisconsin

- Mechanical Engineering Co-Op, 2014 – 2016

Continuing Education

- **Passenger Restrain Safety Systems** -- Institute of Police Technology and Management, University of North Florida, Aurora, IL, 2025
- **Pedestrian/Bicycle Investigation I** -- Institute of Police Technology and Management, University of North Florida, Miami, FL, 2024
- **Event Data Recorder Update and Analysis** -- Ruth Consulting, Norcross, Georgia, 2022
- **Mycometer Surface Fungi, Mycometer** -- Norcross, Georgia, 2022
- **Human Factors in Traffic Crash Reconstruction** -- Institute of Police Technology and Management, Miami, Florida, 2022
- **Traffic Crash Reconstruction** -- Northwestern University Center for Public Safety, Norcross, Georgia, 2022
- **FARO 3D Scanner Certification; FARO** -- Norcross, Georgia, 2021
- **OSHA 30-Hour General Industry Health and Safety Certification** -- University of South Florida, Tampa, Florida, 2020

Professional Affiliations/Honors

American Association of University of Women, Member

American Boat and Yacht Council (ABYC), Member

American Society of Biomechanics (ASB), Member

ASTM International – Subcommittee F15.82, Member

ASTM International – Subcommittee F27, Member

Pi Mu Epsilon (Mathematics Honor Society), Member

Professional Ski Instructors of America & American Association of Snowboard Instructors (PSIA-AASI), Member

Supplemental Certifications

Forklift Certified Operator, 2022

First Aid Certified / Basic CPR Certified & Certified in Basic Life Support

PADI Open Water Certified SCUBA Diver, 2013

Six Sigma Yellow Belt, 2017

Selected Technical Investigations

Amusement Parks and Other Recreational Land and Water Sports

Bicycle Protective Equipment

Biomechanical Analysis of Low-Speed Vehicle Crashes

Consumer Products (Household Appliances, Toys, Active Lifestyle Equipment, etc.)
Evaluation, Review, and Update of Owner's Manuals and On-Product Labels
Medical Devices (Orthopedic Implants, Assistive Device Design, etc.)
Night-time Visibility / Conspicuity and Visibility Obstructions
Pedestrian / Vehicle and Bicycle / Vehicle Crashes
Pediatric and Adult Surrogate Testing
Snow Sport Injury Consistency Analysis
Sports and Fitness Equipment
Water Intrusion Injury Testing

Publications

- "When a Flashlight Looks Like a Threat: A Multifaceted Human Factors Approach in the Accident Reconstruction of a Police Officer Shooting." M. Meza-Arroyo, G.A. Hazime, **K.B. Zakutansky**. International Society for Occupational Ergonomics & Safety, XXXVIIth Annual Occupational Ergonomics and Safety Conference, Orlando, FL. July 2025.
- Brickman, D.B., Mohorovic, J.P., **Zakutansky, K.B.**, Mathias, A.C., Shibata, P.A., "Aboveground Swimming Pool Child Access Prevention Through Product Design," Proceedings of the XXXVIth Annual International Occupational Ergonomics and Safety Conference, Denver, CO, August 5-6, 2024.
- Brickman, D.B., Kruger, D.H., Loomis, S.P., **Zakutansky, K.B.**, McGillicuddy, J.S., Thibault, B.A., "Industrial Tugger 3-Dimensional Convergence Accident Reconstruction Technology," Proceedings of the XXXVIth Annual International Occupational Ergonomics and Safety Conference, Denver, CO, August 5-6, 2024.
- Winkel, E. S., **Zakutansky, K.B.**, Schirmann, M., Breen, K. C., Taylor, R. K., "Water Intrusion Injuries: Occupant Kinematics and Pressure Exposure During Rearward Falls from a Personal Watercraft", Society of Automotive Engineers, Journal of Transportation Safety, 11(1), 2023.